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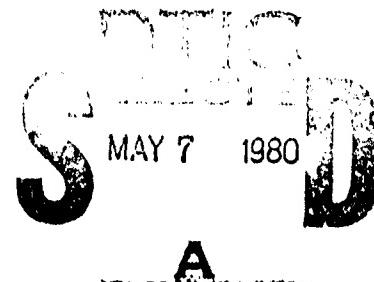
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**IMPROVING THE PRODUCTIVITY OF LOW PERFORMERS:
AN INTERVENTION CASE STUDY ON A NAVY SHIP**

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) <i>21</i> A training program was developed to improve the performance of low performers (LPs) aboard a Navy combatant ship. Workshops were conducted for the LPs, all supervisory personnel aboard their ship, and a smaller group of supervisors selected as mentors. The LPs' performance ratings, including supervisory evaluations and disciplinary records, were obtained before and after the training and used to assess improvements. Results indicated that, after training, the LPs received significantly higher supervisory evaluations and committed fewer disciplinary offenses compared to controls.		

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FOREWORD

This research and development was sponsored by the Commander, Naval Military Personnel Command (NMPC-6). It is part of a project being conducted to assess the effects of elements of the Navy's Human Resource Management (HRM) Support System. The objective of this effort was to document the effects of a specially tailored HRM intervention aimed at improving the work performance of problem crewmen on a Navy frigate.

Appreciation is expressed to two HRM consultants, LCDR Bob Glennon and BMCS Gary Maylone, who participated in the design and implementation of the workshops, and to Geneva Lane, who assisted the authors in gathering and analyzing data. Thanks are also due to CDR Larry Seaquist, who was Commanding Officer of LST BRONSTEIN during the intervention. The coordination and cooperation of BRONSTEIN personnel, the HRMC staff, and Center researchers contributed to the success of this effort.

DONALD F. PARKER
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SUMMARY

Problem

The Navy is currently experiencing manpower shortages because of high attrition and low retention rates. Because of these shortages, and increased recruitment and training costs, the Navy has become even more concerned with gaining full use of its human resources, including marginal and poor performers. While the Navy can and does prematurely discharge problem personnel, manpower shortages and management objectives dictate that it investigate both traditional and innovative techniques for raising their performance to satisfactory levels.

Purpose

The purpose of this study was to develop and evaluate a strategy for motivating Navy enlisted personnel to improve their work performance.

Approach

A training program was developed that was aimed at improving the performance of low performers (LPs) among the crew of a Navy combatant ship. The approach used to develop this program involved three tracks that focused on supervisors, a subgroup of supervisors selected to be mentors, and the LPs themselves. It was designed to (1) prepare supervisors to recognize improvements made by LPs and reward them when they occurred, (2) train the mentors to counsel the LPs during their next deployment, and (3) motivate the LPs to improve their performance. The LPs' performance ratings, including supervisory evaluations and disciplinary records, were obtained before and after training and compared to those of control groups to assess changes. The LPs, their commanding officer, and their mentors were interviewed to help identify reasons for the changes.

Findings

1. After training, the LPs showed significant improvements in supervisory ratings and in number of disciplinary offenses when compared to control groups.
2. Comments by the LPs, their CO, and their mentors suggested that the LPs improved their performance because the program raised their expectations of themselves and enabled their supervisors to support their efforts to improve.

Conclusions

1. The organizational development strategy used in the study appears to warrant further investigation in a larger variety of settings. The strategy, to succeed, must involve the LPs, their immediate supervisors, and the command management—all of whom must be convinced of the gains to be made from the program.
2. The use of a mentor system does not appear to be necessary to the program's effectiveness, since many of the LPs turned to their supervisors for the mentor relationship. Quite possibly, the training offered to the mentors could be profitably included in the supervisory training.

3. Navy researchers and consultants can effectively work together to the benefit of both groups. The present effort might be classed as "action research" in that both implementors and evaluators participated in all phases of the intervention.

Recommendations

1. The effect of this type of intervention should be investigated on other ships and within different communities to determine (a) which of the actions taken during the intervention actually caused LPs to improve their performance and (b) how the training programs can be modified to meet the needs and preferences of other clients.

2. Navy commands currently implementing motivational-retraining programs should attempt to use some of the concepts suggested by this study, particularly that supervisors accept a portion of the responsibility for their subordinates' poor performance and support their subordinates' efforts to improve.

3. The action research approach used in this study should be considered by Navy researchers and managers for use in developing more practical solutions to the Navy's personnel management problems.

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INTRODUCTION

Problem

The Navy, like the other military services, is currently experiencing manpower shortages because of high attrition and low retention rates (Hand, Griffeth, & Mobley, 1977). These shortages, coupled with increased recruitment and training costs, have caused the Navy to intensify its efforts to make the best use of available personnel.

One group that presents a continuing problem for management consists of first-term enlistees whose performance falls well below acceptable standards. For these personnel, who frequently contribute to discipline and attrition problems, the traditional motivating factors of pride-in-job, recognition, and advancement appear to be ineffective. While the Navy can and does prematurely discharge marginal performers, manpower shortages and CNO management objectives dictate that efforts be made to retain and use these personnel. For this reason, the Navy is examining both traditional and innovative strategies for improving their performance. The benefits of these strategies, in terms of increased individual productivity, improved workgroup cohesiveness, and reduced delinquent behavior, could be substantial.

Background

Productivity in many jobs depends upon how much effort workers are willing to put forth. While some writers argue that technology determines worker productivity (e.g., Dubin, 1958; Dubin, Homans, Mann, & Miller, 1965), others contend that motivation is the major determinant of work output, especially in lower level jobs (Campbell & Pritchard, 1976; Lawler, 1973).

Although a number of management strategies exist for increasing worker motivation, they are not equally useful in all situations. For example, job redesign (Aldag & Brief, 1979; Oldham, Hackman, & Pearce, 1976), can rarely be used to upgrade routine, low-level positions, nor can it be used selectively for only a few positions within a work group, since it often requires coordination across several departments (Strauss, 1976). Thus, where it is necessary to improve the productivity of marginal performers distributed throughout an organization, job redesign is not an efficient strategy.

Other researchers (Porter, Lawler, & Hackman, 1975) have focused on screening and selection as techniques for minimizing the number of low performers. For the All-Volunteer Navy, screening has not been fully successful because there are not enough applicants to allow for stringent selection standards.

Finally, motivational retraining has recently been implemented in an attempt to improve low performers' work performance. While it is too early to assess the effects of retraining, Hoiberg (1975) found it to be effective with recruits.

The present effort examined a command-specific strategy for improving the performance of low performers and involved all personnel within the unit. The strategy focused on the concept of the self-fulfilling prophecy, or "Pygmalion Effect"; that is, the tendency of people to perform in accordance with what others expect of them as well as what they expect of themselves. While there have been differing interpretations of this effect, there seems to be general agreement that it exists.

The subjects in the present effort, which was conducted as an organizational intervention, had been labeled "dirtbags." Whether they deserved the label is not of concern here; the goal of the intervention was to change this image for both these low

performers (LPs) and their supervisors. The LPs were mostly General Detail (GENDET) personnel who were assigned to routine, menial jobs. They were experiencing disciplinary problems, which included unauthorized absences, alcohol abuse, drug abuse, and generally poor attitudes toward both the command and the Navy.

Purpose

The purpose of this study was to develop and evaluate a strategy for motivating Navy enlisted personnel to improve their work performance. The degree of improvement was measured using actual performance ratings so that the strategy, if successful, could be discussed in terms of practical outcomes.

APPROACH

Overview

Consultants from the Human Resource Management Center (HRMC), San Diego, developed and conducted a training program aimed at improving the performance of low performers (LP). The client was the commanding officer (CO) of a 230-man crew San Diego-based combatant ship.¹ The approach used by the HRM consultants involved three tracks, which focused on supervisors, a subgroup of supervisors selected to be mentors, and the LPs themselves. The training was conducted during February and March, 1977.

Supervisory Training

A 1½-day motivation and leadership workshop was conducted for all of the ship's officers and the enlisted personnel at grade E-5 and above. The workshop was designed to (1) change the supervisors' negative expectations of the LPs, (2) encourage the supervisors to help the LPs develop more positive expectations of themselves, and (3) prepare the supervisors to accept a larger share of the responsibility for improving the LPs' performance. The workshop presented current manpower and attrition problems in the Navy, concepts of leadership, and the goals and concepts behind the current program. Attendees were shown a movie, Productivity and the Self-Fulfilling Prophecy: The Pygmalion Effect (1974), and given an opportunity to discuss it.

Observations made during the training indicated that some supervisors were reluctant to accept any responsibility for the poor performance of their subordinates. Instead, they blamed the recruiting system, recruit training, parents, and society at large--factors that were well beyond their control. As the workshop progressed, however, most became more optimistic about the effect they might have as supervisors. The HRM team felt that the supervisors' shift in attitude was partly the result of the training they were receiving in the principles of behavior modification, which gave them the tools they needed to reward their subordinates' new, more positive behavior.

¹The HRMC, a part of the Navywide Human Resource Management (HRM) Support System, specializes in conducting command-specific organizational development services. Each Center is composed of naval HRM specialist teams, who assist Navy clients in meeting command objectives in the areas of personnel management and leadership.

Mentor Training

Mentors were used to give the LPs models of effective behavior that they could emulate as their expectations of themselves improved. The mentor was to be someone outside of the LP's chain of command to whom he could turn for counseling. The HRM team and the ship's officers selected 15 supervisors from earlier workshops who appeared to have credibility with the crew and personalities suited to the counselor's role to serve as mentors.

The mentors were trained in counseling skills during a 1-day workshop. They were taught that active listening (Carkhuff, 1969), which allows the counselee to assume responsibility for his own problems and their solutions, could be used to enhance the LPs' expectations of themselves. They were also introduced to the techniques of leadership effectiveness training (Gordon, 1974).

LP Training

The ship's officers selected 15 LPs from among the crew, 12 of whom ultimately participated in the training program. Interviews and a review of the personnel files for these LPs revealed the following:

- Their performance in the Navy was marked by disciplinary problems and low marks on enlisted performance evaluations.
- Half had not completed high school, while two-thirds had been expelled or suspended while attending high school.
- While the "dirtbag" image was consistent with their performance history, the HRM team felt that nearly all appeared to have the potential to become effective crewmen.

Since almost all of the LPs had low expectations of success and were not inclined to set goals or develop plans, the HRM team decided that a program focused on goal setting and self-discipline had the greatest chance of success. The LP training included a series of workshops presented as two 3-day packages. The training began with an introductory address by their CO, in which he stressed that, although they were poor performers, they did have the potential to improve. Although the LPs were reluctant to accept their CO's assessment, most of them actively participated in the self-improvement exercises.

The LPs also participated in sessions designed to increase their acceptance of responsibility for determining their personal lives and futures. These workshops borrowed heavily from Glasser's (1965) reality therapy, which stresses that individuals can cope with life more successfully by learning to plan and set goals for themselves. The workshop facilitators attempted to help the LPs develop realistic plans of action that, if successfully carried out, could reinforce their positive expectations. The LPs, like their supervisors, viewed and discussed the Pygmalion film.

At the end of the first 3 days, the LPs were introduced to their mentors, with whom they were paired by mutual nomination. During this session, the mentors and LPs made plans for future meetings.

One day per week for the next 3 weeks, LPs participated in workshops on the topics they had selected. In one of these, which the HRM team considered especially important, they received training in "trick" or "reverse psychology" that they could use on their

supervisors. (This training dovetailed with the behavior modification training given the supervisors.) Other workshops focused on vocational guidance and planning, reading skills, and a second address from their CO, in which he discussed the Navy's mission and explained how they, as crew members of the ship, were vital to the performance of that mission. Researchers from this Center observed all workshops, and, from time to time, provided input and feedback to the workshop leaders.

In April 1977, about 3 weeks after the LPs completed their training, their ship deployed to the Western Pacific for 7 months. The HRM team provided no further services after the ship deployed.

Dependent Measures

Supervisory evaluations and disciplinary infractions were used as performance measures:

1. Supervisory Evaluations--At the time of this study, performance ratings were completed every 6 months for all nonsupervisory personnel covering the following four areas: (a) professional performance, (b) military behavior, (c) personal appearance, and (d) adaptability. An additional measure, which was labeled "overall performance," was generated by computing a mean score from these four measures. Preintervention supervisory evaluations were for the 6-month period from August 1977 through January 1978; and postintervention evaluations, for the period from February through July 1978. For the LPs receiving training, however, postintervention evaluations were for the 4-month period from the end of March, when they completed their training, through July 1978. Their CO had agreed to "close out" their performance evaluations during the 2-month training period, thereby offering them a new start.

2. Disciplinary Infractions--The number of times an enlisted man receives a formal disciplinary hearing or nonjudicial punishment (NJP). Such punishments are given for minor offenses and are equivalent to misdemeanors in the civilian sector. Since discipline is an important criterion in military organizations (Crawford & Thomas, 1977), a reduced number of NJPs was considered an important indicator of improved adjustment. The number of NJPs also provided a performance indicator that was independent of the supervisory evaluations. Preintervention disciplinary records were for the 8-month period from July 1977 through February 1978; and postintervention records, for the period from March through October 1978.

Comparison Groups

Two comparison groups were identified. The first, termed LP Shipmates, consisted of all other nonsupervisory crewmen on board the ship who had not participated in the intervention. Analyses of mean scores on performance and disciplinary indices obtained by the LPs and the LP shipmates during the preintervention periods showed that the LP Shipmates performed better than the LPs on all indices. These results, which are included in Table 1, supported the original identification of the LPs as being lower performing personnel. For this reason, the LP Shipmates were ruled out as a direct comparison group, although differences in their scores over the pre- and postintervention periods could be used to control for performance improvements resulting from merely being on the experimental ship.

The second group, termed LP Controls, comprised 20 nonsupervisory enlisted men on board four other ships in the squadron. These men were selected because the mean scores

they had obtained on performance and disciplinary indices during the preintervention periods were similar to those obtained by the LPs (see Table 1). Like the LPs, these men would also be serving at sea for an extended period.²

An analysis of variance was performed on mean preintervention scores obtained by the three groups. The results are included in Table 1, which shows that there were significant overall differences between groups on all measures. Follow-up tests were used for making intergroup comparisons on overall performance and NJPs measures, since they were used in subsequent analyses. Results indicated that the LPs and the Control LPs were significantly lower ($p < .01$) than the LP Shipmates on both measures, whereas LPs were significantly lower than the Control LPs on overall performance.

Table 1
Comparison of Mean Scores on Performance
and Disciplinary Indices for the
Preintervention Periods

Dependent Measures	Groups			F (df = 2, 59)
	LPs ^a (N = 8)	LP Controls (N = 20)	LP Shipmates (N = 34)	
Supervisory Evaluations: ^b				
Professional Performance	3.20	3.39	3.49	3.85*
Military Behavior	3.00	3.15	3.46	8.01**
Personal Appearance	2.85	3.07	3.41	9.50**
Adaptability	3.25	3.53	3.59	4.60*
Overall Performance	3.08	3.29	3.49	8.63**
NJPs ^c	1.00	.90	.06	25.17**

^aScores of only eight LPs were used in these analyses because four LPs had either completed their enlistments or were discharged, making it impossible to obtain postintervention data.

^bBased on a 4-point scale, ranging from a low of 1 to a high of 4.

^cThe mean number of NJPs during the 8-month preintervention period.

* $p < .05$.

** $p < .01$.

²These personnel accounted for 15 percent of the 134 nonsupervisory enlisted personnel aboard the four ships. This percentage was close to the 19 percent figure obtained on the experimental ship, suggesting that the experimental ship was not atypical.

Data Analyses

Change scores were generated for the three groups by finding the difference between their pre- and postintervention scores on overall performance and NJP measures. Differences in these change scores across groups were analyzed and tested for significance. Correlated "t" tests, using a one-tail hypothesis, were used to determine whether the LPs showed improvements relative to the control groups (see McNemar, 1969).

Interviews

Unstructured interviews with the LPs, their mentors, and the CO were conducted in November 1978 to identify possible changes resulting from the program and to determine whether the LPs had continued to perform at the same level during the 3 months following their final supervisory evaluations (i.e., August through October 1978).

RESULTS

Performance and Disciplinary Measures

As shown in Table 2, the LPs showed significant improvements on both performance and disciplinary indices from the pre- to postintervention periods. Further, they improved more than either of the comparison groups. In fact, the LPs were performing at levels comparable to the preintervention levels of their LP Shipmates. The negative change on the disciplinary measure reflected a decrease in the number of nonjudicial punishments (NJP). The mean postintervention NJP score of .13 indicated that only one NJP was issued to the eight LPs during the 8-month postintervention period, compared to the one-per-person average during the comparable preintervention period. Moreover, since all of the eight LPs improved on most of the dependent measures, the LP group's improvement was not due to large changes in behavior by a few individuals.

Interviews

The LPs and their mentors reported that the mentor system broke down soon after the experimental ship deployed. They suggested that this occurred because (1) there was neither time nor a comfortable place for meetings and (2) the mentors were not volunteers. Interestingly, some LPs said that they had begun to use their supervisors as mentors because communication between them had improved as a result of the workshops. Some LPs said they resented having been ordered into the program, but all agreed that the personal and work-related benefits attained had made their involvement worthwhile. The LPs indicated that perhaps the most important part of the process was that someone had taken an interest in them and believed they could do a good job. Some said that this was the first positive recognition they had received since joining the Navy.

The LPs' CO was also pleased with the results of the intervention. He stated that the key to its success was the emphasis it placed on convincing the LPs' first-line supervisors that their crewmen were valuable resources. He added that the supervisory workshops had helped to persuade the supervisors that worker motivation was their responsibility. He also noted that all eight of the remaining LPs had stabilized or continued to improve in their performance marks since the final evaluation of the intervention. He cited records showing that six of the LPs who were eligible for promotion had passed the Navywide advancement exams and said that five of them would be promoted to specific ratings in

the next 6 months. He attributed this accomplishment to new self-motivation on the part of the LPs.

Table 2
Changes in Mean Scores on Performance
and Disciplinary Indices from Pre- to Postintervention Periods

Dependent Measure	Group	Pre-Period	Post-Period	Change	Difference ^a
Overall Performance ^b	LPs	3.08	3.48	.40	--
	LP Controls	3.29	3.39	.10	.30**
	LP Shipmates	3.49	3.55	.06	.34**
NJP ^c	LPs	1.00	.13	-.87	--
	LP Controls	.90	.55	-.35	.52
	LP Shipmates	.06	.29	.23	-1.10**

^aThis difference was computed by subtracting the change score of the comparison group from the change score of the LP group. Asterisks indicate significance for the results of correlated *t* tests using the one-tail hypothesis that LPs would show improvements relative to the comparison groups.

^bBased on a 4-point scale, ranging from a low of 1 to a high of 4.

^cThe mean number of NJPs per person during the 8-month pre- and postintervention periods.

***p* < .01.

DISCUSSION AND CONCLUSIONS

The research documented in this report is admittedly a pilot-level study. There are a number of factors in the treatment, evaluation design, and measures used that could have contributed to the findings. For example, the use of supervisory evaluations and command disciplinary records could be faulted since both supervisors and top management may have been more lenient in judging the performance of the LP group. Other factors, including Hawthorne effects and the fact that the LPs were not volunteers for the training while the CO was a volunteer, pose speculative questions.

Finally, while there is evidence in the literature to support the importance of self-fulfilling prophecy in determining work performance, the underlying theoretical constructs have not been identified (Jones, 1977). Thus, self-fulfilling prophecy offers only one explanation for the obtained effects. The study itself seems to support the following conclusions:

1. The organizational development strategy used appears to warrant further investigation in a larger variety of settings. The strategy, to succeed, must involve the LPs, their immediate supervisors, and the command management--all of whom must be convinced of the gains to be made from the program.

2. The use of a mentor system does not appear to be necessary to the program's effectiveness, since many of the LPs turned to their supervisors for the mentor relationship. Quite possibly, the training offered to the mentors could be profitably included in the supervisory training.

3. Navy researchers and consultants can effectively work together to the benefit of both groups. The present effort might be classed as "action research" in that both implementors and evaluators participated in all phases of the intervention. Thus, the study included both action (the intervention) and research (the evaluation).

RECOMMENDATIONS

1. The effect of this type of intervention should be investigated on other ships and within different communities to determine (a) which of the actions taken during the intervention actually caused LPs to improve their performance and (b) how the training programs can be modified to meet the needs and preferences of other clients.

2. Navy commands currently implementing motivational retraining programs should attempt to use some of the concepts suggested by this study, particularly that supervisors accept a portion of the responsibility for their subordinates' poor performance and support their subordinates' efforts to improve.

3. The action research approach used in this study should be considered by Navy researchers and managers for use in developing more practical solutions to the Navy's personnel management problems.

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Commander, U.S. Army Administration Center (ATZI-CD-HRD)
Human Resources Development Division, Combat Developments Directorate, U.S. Army Administration Center
Military Assistant for Training and Personnel Technology, Office of the Under Secretary of Defense for Research and Engineering
Commandant, Industrial College of the Armed Forces
Science and Technology Division, Library of Congress
Commandant, Coast Guard Headquarters (G-P-1/62)
Commanding Officer, U.S. Coast Guard Institute
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